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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/753,259	01/07/2004	Akihiko Aoyagi	HSJ920030192US1	6713
45552      7590      05/21/2008 HITACHI C/O WAGNER BLECHER LLP 123 WESTRIDGE DRIVE WATSONVILLE, CA 95076				
EXAMINER TUGBANG, ANTHONY D				
ART UNIT 3729		PAPER NUMBER		
MAIL DATE 05/21/2008		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/753,259

**Applicant(s)**

AOYAGI ET AL.

**Examiner**

A. Dexter Tugbang

**Art Unit**

3729

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 13, 20 and 22-29 is/are pending in the application.
- 4a) Of the above claim(s) 20, 23 and 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13, 22, 24 and 26-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/888)
- Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

#### ***Response to Amendment***

1. The applicant(s) amendment filed on February 7, 2008 has been fully considered and made of record.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Election/Restrictions***

3. Claim 20 continues to stand as being withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 19, 2006.
4. Claims 23 and 25 continue to stand as being withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on August 13, 2007.

#### ***Claim Rejections - 35 USC § 103***

5. Claims 13, 22, 24 and 26 through 29, are rejected under 35 U.S.C. 103(a) as being unpatentable over Krum et al 5,482,381 in view of Kitahara et al 4,900,958.

Krum discloses a method of assembling an actuator arm system for a hard disk drive (HDD) comprising: positioning a lower bearing (e.g. 66) on a flange (e.g. 80, 84, 88), the lower bearing having an inner race (e.g. 70) and an outer race (e.g. 72), the flange supports the inner

race in an axial direction relative to a shaft (e.g. 18) and the flange is in direct contact with the inner race, and wherein the lower bearing and an upper bearing (e.g. 68) are positioned on the same side of the flange (see Fig. 2); placing an actuator arm (e.g. 28) on the outer race of the lower bearing wherein the actuator arm is in contact with the outer race of the lower bearing; placing the upper bearing on the shaft, the upper bearing having an inner race (e.g. 70) and an outer race (e.g. 72); and applying an adhesive between the inner race of the upper bearing and the shaft in a groove (e.g. 76, col. 4, lines 5-9).

Regarding Claim(s) 22 and 24, as can be clearly seen by Krum in Figure 2, the upper bearing and lower bearing have equivalent inner bores to receive the same diameter shaft and also have equivalent outer diameters from the outer races.

Regarding Claim(s) 26 and 27, Krum does not have a sleeve since the actuator arm (e.g. 28) is directly received by both the lower and upper bearings and the shaft (e.g. 18) both restrains and supports the lower bearing.

Regarding Claim(s) 28, Krum further teaches that a gap (i.e. grooves 76) exists between the actuator arm and the shaft.

Regarding Claim(s) 29, Krum further teaches that the shaft comprises a threaded hole in the top of the shaft (col. 3, lines 60-63).

As noted above, Krum teaches substantially all of the limitations of the claimed manufacturing method except applying an axial preload force to the inner race of the upper bearing; curing the adhesive and releasing the preload force.

Kitahara shows that it is conventional in the art of manufacturing shafts with bearings to apply an adhesive between an inner race (e.g. 57 in Fig. 9) of an upper bearing (e.g. 56) and a

shaft (e.g. 72), apply an axial preload force (e.g. F in Fig. 9) to the inner race of the upper bearing, cure the adhesive, and release the preload force. The purpose of utilizing such manufacturing steps above is to minimize vibration in the bearings and provide a force to the upper bearing to allow the adhesive to be applied and cured so that the inner race is secured to the shaft (all of above of which is discussed at col. 7, lines 44+).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Krum by adding such manufacturing steps of applying an axial preload force to the inner race of the upper bearing; curing the adhesive and releasing the preload force, as taught by Kitahara, for the advantages of minimizing vibration in the bearings and securing the inner race is to the shaft.

#### ***Response to Arguments***

6. The applicant(s) arguments filed on February 7, 2008 have been fully considered, but they are not persuasive.

The applicant(s) argue that Kitahara et al teaches away from the claimed invention and thus, would not be obvious to one of ordinary skill in the art to make such a combination. The examiner will address this argument to the extent that the secondary reference is still being applied here, however, it is being applied in a new combination with a new primary reference, i.e. Krum et al.

The examiner asserts that Kitahara would not teach away from the invention, or the prior art, in this case, Krum et al. Both Krum and Kitahara solve the very same manufacturing problems of applying an adhesive between the inner race of the upper bearing and the shaft, and

thus, it would be obvious to one of ordinary skill in the art would to look to either Kitahara or Krum to address the very same problems associated with assembling bearings to shafts. Therefore, Kitahara would in no way, teach away from Krum.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 571-272-4570. The examiner can normally be reached on Monday - Friday 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/A. Dexter Tugbang/  
Primary Examiner  
Art Unit 3729**

May 19, 2008